

REMARKS

This paper is responsive to the non-final Office action dated September 18, 2008. Claims 3, 4, 6-8, 13, 15, 29, 31 and 47-56 were examined. All claims stand rejected. Of those, claim 29 is **cancelled**; rejections of remaining claims are **traversed** and new claims 57-58 are added.

Claim objections

Claim 3 has been amended to include the previously omitted preposition “of” as required by the Examiner.

Note Regarding Limitation on Finality of the Next Office Action

As explained below, specific limitations of *presently rejected* claims 3, 4, 6-8, 13, 15 and 47-50 are simply not shown in the applied art. ***These omissions are not simply matters of interpretation, but rather reflect an absence of supporting factual basis.*** Claims 4, 6-8, 13, 15, and 47-50 have not been amended and the amendment of claim 3 is limited to matters of form. Each of the aforementioned claims is believed allowable. Nonetheless, should the Office reject any of those claims based on new grounds, Applicant wishes to emphasize that such action may ***not*** be made final. *See* MPEP 706.07(a).

Claim Rejections – 35 U.S.C. § 102(b) - Fort

Claims 3, 4, 13, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by US Patent No. 4,320,472 to Fort (hereinafter “*Fort*”). With respect, Applicant notes that claim 3 contains limitations that are simply not found in *Fort*. In particular, notwithstanding the Office’s pinpoint citations to *Fort* (*see* Office action, pp. 2-3), nothing in *Fort* discloses or suggests a system in which

a survey controller [is] configured to automatically poll []
 survey probes to obtain respective identifiers and [to]
 determine a relative order of the probes,
 each survey probe configured to
 disconnect a downstream neighbor survey probe and enter an
 idle state;
 report its unique identifier to the survey controller if in
 the idle state and in response to a polling command
 from the survey controller; and
 change to a state other than the idle state after reporting
 its unique identifier.

Accordingly, the rejection of claim 3 (and claims 4, 6-8, 13 and 15 which depend therefrom) should be withdrawn.

Relative to **claim 4** (and again notwithstanding the pinpoint citation to *Fort*), no teaching exists for a survey controller **“assign[ing] and transmit[ing] a different, unique identifier to each survey probe.”** While *Fort* discloses interrogation of survey probes using unique addresses that characterize the individual probes, *Fort* does not disclose or suggest that addresses are anything other than fixed immutable identifiers, and certainly does not disclose assignment of any such identifiers by a survey controller. Claim 4 is allowable for at least this reason as well.

Relative to **claim 13**, aside from the coincidental use of “current injection” terminology, no reasonable trier of fact could mistake *Fort*’s disclosure that certain *current injection type* high gain amplifiers are preferred for use in a digital seismic signal generator for Applicant’s claim recitation of a **“survey controller configured to [] program ... survey probes to inject current into the surface simultaneously or according to a programmed timing scheme.”** *Fort* discloses a preferred type of high gain amplifier, while the claim recites a capability to program survey probes to inject current at a surface in accord with a particular timing scheme. With respect, the two are not even close. Claim 13 is allowable for at least this reason as well.

Independent **claim 31** stands rejected under 35 U.S.C. § 102(b) as anticipated by *Fort*. With respect, Applicant notes that claim 31 contains limitations that are simply not found in *Fort*. Indeed, notwithstanding the Office’s pinpoint citation to *Fort* (*see* Office action, p. 6), nothing in *Fort* discloses or suggests a system in which power is supplied from a survey controller to survey probes via a power conduit and:

... the survey probes automatically electrically disconnect from the power conduit while measuring the property and operate using an internal source of power when disconnected to reduce noise.

At best, *Fort* discloses that local battery power and centrally supplied power are both suitable for use as the *sole power source* for a geophone. No transition from one power source to another is disclosed and claim 31 is allowable for at least this reason.

Indeed, while voltages and current draws for *Fort's* application (i.e., geophones) can be quite low such that local battery power may be a perfectly acceptable power source, for applications such as injecting current at a surface (e.g., of water, ground, underwater surfaces, man-made surfaces, borehole surfaces, etc.) in support of electrical resistivity and/or induced polarization type measurements, it will be apparent (based on Applicant's disclosure) that substantial voltages (and currents) can be involved. Accordingly, Applicant's techniques address issues not even pertinent to *Fort's* application. New claims 57-58 have been added, in part, to emphasize this point.

Claims 47, 48, and 50 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Fort*. Relative to independent **claim 47**, no disclosure in *Fort* teaches or suggests a system that includes:

a survey controller communicatively coupled to receive from each of the survey probes its respective unique identifier, to automatically determine at least a relative ordering of the survey probes with respect to each other and to thereafter command individual ones of the survey probes based, at least in part, on the automatically determined relative ordering.

Indeed, notwithstanding the Office's pinpoint citation (*see* Office action, p. 8), no teaching or suggestion of:

- any automatic determination of relative ordering of survey probes; or
- any commands communicated to individual survey probes based, at least in part, on the automatically determined relative ordering,

appears in *Fort*. Accordingly, the rejection of claim 47 (and claims 48-50 which depend therefrom) should be withdrawn.

Relative to **claim 48** (and again notwithstanding the pinpoint citation to *Fort*), no disclosure of:

... survey probes [] configured to isolate themselves from an external power supply connection, and to instead operate from an internal power source, for a period during which the respective survey probe collects geophysical data.

appears in the applied reference. Claim 48 is allowable for at least this reason as well.

Relative to **claim 50** (and once again notwithstanding the pinpoint citation to *Fort*), no disclosure of a system that

... determines relative ordering [of survey probes] based on a **startup sequence** that includes:
each survey probe disconnecting its downstream neighbor and entering an idle state;
 in response to a poll received from the survey controller while in the idle state, each survey probe reporting its unique identifier; and
thereafter, a reporting one of the survey probes changing to a state other than the idle state and reconnecting its downstream neighbor, if any, for subsequent polling by, and reporting to, the survey controller

appears in the applied reference. Claim 50 is allowable for at least this reason as well.

Finally, claims 51-53 and 56 also stand rejected under 35 U.S.C. § 102(b) as anticipated by *Fort*. With respect to independent **claim 51**, Applicant notes that *Fort* fails to disclose or suggest:

obtaining a unique identifier from each of plurality of survey probes placed at a surface;
automatically determining a relative position of each of the survey probes as placed;
commanding individual ones of the survey probes using the obtained unique identifiers and based on the determined relative positions thereof
 ...

Rather, *Fort's* disclosure is limited to interrogating geophones using unique addresses. No obtaining of such an identifier, no automatic determination of *relative positioning* of probes, and no commanding of a particular survey probe based on its unique identifier (so obtained) and its relative position (so determined) appears in *Fort*. Accordingly, the rejection of claim 51 (and claims 52-56 which depend therefrom) should be withdrawn.

Relative to **claim 52** (and again notwithstanding the pinpoint citation to *Fort*), no disclosure of a system that:

automatically disconnect[s] individual ones of the **survey probes** from at least the **power supply conductors** for a period that, for the respective survey probe, includes the **collecting of geophysical data;** and
operat[es] the survey probes when disconnected using an **internal source of power to reduce noise.**

appears in the applied reference. Claim 52 is allowable for at least this reason as well.

Relative to **claim 53** (and again notwithstanding the pinpoint citation to *Fort*), no disclosure of a system in which:

each survey probe disconnecting its downstream neighbor and entering an idle state;
in response to a poll received from the survey controller while in the idle state, each survey probe reporting its unique identifier; and
thereafter, a reporting one of the survey probes changing to a state other than the idle state and reconnecting its downstream neighbor, if any, for subsequent polling by, and reporting to, the survey controller

appears in the applied reference. Claim 53 is allowable for at least this reason as well.

Claim Rejections – 35 U.S.C. § 102(e) – Orban

Claim 31 also stands rejected under 35 U.S.C. § 102(e) as anticipated by US Patent No. 6,847,896 to Orban et al. (hereinafter “*Orban*”). With respect, Applicant notes that claim 31 contains limitations that are simply not found in *Orban*. In particular, nothing in *Orban* discloses or suggests a system in which power is supplied from a survey controller to survey probes via a power conduit and:

... the survey probes automatically electrically disconnect from the power conduit while measuring the property and operate using an internal source of power when disconnected to reduce noise.

As with the *Fort*-based rejection addressed above (and again notwithstanding the pinpoint citation at page 7 of the Office action), the alleged disclosure is simply not present in the applied reference. For at least this reason, Claim 31 is allowable and a notice to that effect is requested.

Claim Rejections – 35 U.S.C. § 103 Fort in view of Orban

Claims 6-8, 49 and 54-55 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Fort* in view of *Orban*. As each of the rejected claims depends from an allowable base claim, the rejections should each be withdrawn. For completeness and for avoidance of any inference of acquiescence, Applicants respectfully note that, as with previously addressed section 102 rejections, neither the applied reference (here *Orban*) nor the combination (here *Fort* in view of

Urban) provide actual factual support for the Offices positions, particularly with regard to use (as claimed) of a GPS receiver and connectivity and performance of measurements (as claimed) using particular conductor configurations.

Conclusion

In summary, claims 3, 4, 6-8, 13, 15, 31 and 47-58 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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_____ David W. O'Brien	12-Mar-09 Date

Respectfully submitted,

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